

DOI: 10.12731/2658-6649-2024-16-6-1347

EDN: TTKBGD

UDC 574.4



Original article

## TAKING PLATFORMS BEYOND HUMAN-CENTRIC APPROACH: PLATFORMS FOR HUMAN-NON-HUMAN INTERACTIONS

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### *Abstract*

**Background.** Platforms are generally seen as places for interaction between people. This assumption can be viewed as a manifestation of human-centric speciesist approach which is now being abandoned in the social research. It means that an analysis of potential use of platform model by non-human animals is in order.

**The goal of the present research** essay is to go beyond this speciesist approach and to find out if non-human sides can be present on platforms.

**Research methodology.** The theory used in the present research essay is based on key features of platforms described in the literature (network effects, competition, autonomy of users). The paper is conceptual and does not draw on empirical data.

**Research findings.** The paper demonstrates that platforms can be used for human-non-human interaction. Platforms can be initiated not only by people, but also by animals. People and animals can belong to the same side of a platform. These results show that platform approach can be used to analyze and to organize interactions between people and animals. Beyond the human-non-human interactions, the paper contributes to a better understanding of models of platform transformation. The paper sheds light on the nature of sides' participation in platform interactions and shows that one of the sides may not be interested in these interactions and is turned into a platform side against its will. It demonstrates that platform transformation can be forced (carried out against the will of the owner of the infrastructure that is used as a marketplace) and induced (carried out by external actors). Forced platformization can be seen as a dark platform practice. While owners of infrastructure may be interested in platform transformation, they should protect their infrastructures against forced platformization.

**Conclusion.** The contribution of this paper is two-fold. First, it enriches our understanding of human-non-human interactions by demonstrating that they can be based on platform approach. Second, it contributes to platform research as it

identifies new models of platform transformation that have not been described in the extant literature. A prospective direction of further research is use of platform approach by non-human animals (without a human side).

**Keywords:** platform; human-non-human platforms; forced platform transformation; dark platform practices; speciecism; specieicist approach

**For citation.** Kotliarov I.D. Taking Platforms Beyond Human-Centric Approach: Platforms for Human-Non-Human Interactions. *Siberian Journal of Life Sciences and Agriculture*, 2024, vol. 16, no. 6, pp. 476-489. DOI: 10.12731/2658-6649-2024-16-6-1347

Научная статья

## ПЛАТФОРМЫ ЗА ПРЕДЕЛАМИ ЧЕЛОВЕКОЦЕНТРИЧНОГО ПОДХОДА: ИСПОЛЬЗОВАНИЕ ПЛАТФОРМ ДЛЯ ВЗАИМОДЕЙСТВИЯ ЛЮДЕЙ С ДРУГИМИ ВИДАМИ

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### *Аннотация*

**Обоснование.** Платформы обычно рассматриваются как площадки для взаимодействия между людьми. Такое восприятие платформ представляет собой проявление человекоцентричного специецистского подхода, который в настоящее время постепенно уступает свое место в социальных науках неспециецистской логике. По этой причине большой интерес может представлять анализ возможности использования платформ нечеловеческими живыми существами.

**Цель данного исследовательского эссе** заключается в том, чтобы выйти за пределы специецистского подхода и определить, могут ли нечеловеческие живые существа присутствовать на платформах в качестве их сторон.

**Материалы и методы:** теория, использованная в данной работе, основана на ключевых характеристиках платформ, описанных в литературе (сетевые эффекты, конкурентное сотрудничество, автономия пользователей). Работа является концептуальной и не опирается на эмпирические данные.

**Результаты исследования.** Данная работа показывает, что платформы могут использоваться для взаимодействия людей с другими видами. Такие межвидовые платформы могут создаваться по инициативе как людей, так и

животных. Люди и другие виды живых существ могут находиться на одной стороне платформы. Эти результаты показывают, что платформенный подход может быть использован для анализа и организации взаимодействий между людьми и другими видами животных. Помимо нового взгляда взаимодействия людей и других видов, полученные результаты также позволяют лучше понять природу платформенной трансформации. Данное исследование уточняет природу участия сторон в платформенном взаимодействии и показывает, что одна из сторон может не быть заинтересована в нем и становится стороной платформы против своей воли. Кроме того, платформенная трансформация может быть принудительной для владельца инфраструктуры, используемой в качестве платформы, и реализованной внешними акторами. Принудительная платформизация может рассматриваться как недобросовестная платформенная практика. Хотя собственники инфраструктуры могут быть заинтересованы в платформенной трансформации, им необходимо принимать меры по защите от принудительной платформизации.

**Заключение.** Данная работа содержит два основных результата. Во-первых, она обогащает наше понимание взаимодействий между людьми и другими видами, показывая, что оно может быть основано на платформенном подходе. Во-вторых, она вносит вклад в исследование платформ, поскольку она идентифицирует новые модели платформенной трансформации, которые пока не были описаны в существующей литературе. Перспективным направлением дальнейших исследований является определение того, могут ли существовать платформы без участия человека.

**Ключевые слова:** платформа; платформы для взаимодействия людей и других видов; принудительная платформенная трансформация; недобросовестные платформенные практики; специализм; специцистский подход

**Для цитирования.** Котляров И.Д. Платформы за пределами человекоцентричного подхода: использование платформ для взаимодействия людей с другими видами // Siberian Journal of Life Sciences and Agriculture. 2024. Т. 16, №6. С. 476-489. DOI: 10.12731/2658-6649-2024-16-6-1347

## Introduction

Platforms have deeply transformed global economic, business, political and social landscapes over the last decades [14; 40]. People buy goods on Amazon, post their videos on YouTube, exchange opinions in Telegram, support projects on Kickstarter, order rides on Uber, find lodging on Airbnb, resell second-hand items on Etsy and Ebay, study on Coursera – the list is endless. This ubiquitous presence of platforms makes them an interesting object of study. However,

there is an important assumption that is taken for granted in platform research – that platforms are a human phenomenon. Indeed, all examples of platforms that are analyzed in the extant literature are human ones (that is, only humans or human-created structures use them for interactions) and to the best of my knowledge no attempts have been made to find out if platforms can be used by non-human animals. This assumption is a manifestation of the speciecist logic which is slowly but steadily giving ground to non-speciecist approach in social sciences [2; 4; 9; 22; 23; 43]. As Greenebaum and Sanders state, “Human interaction with nonhuman animals is a central feature of contemporary social life” [12]. Inclusion of non-human animals into social studies can help to identify differences and similarities in organization of human-non-human communities and societies and to better understand the universal features they have in common [41]. Non-speciecist approach to platforms can enrich our knowledge of this model of interactions.

### **Goal of the research**

The goal of the present research essay is to demonstrate the existence of platforms in human-non-human interactions (more precisely, in exchange of food between people and animals). This goal is twofold as it can foster the platform research by including non-human animals into analysis and contribute to a better understanding of human-non-human interactions by applying platform approach.

### **Methodology**

Hagiu and Wright [16] describe platforms as places for direct interactions of a large (potentially unlimited) number of affiliated users. “Affiliation” means that users on each side consciously make platform-specific investments necessary to access the platform (for example, spend time to drive to a shopping mall). Large number of users is present on each side of platforms so the supply and the demand are both decentralized.

Key features of platforms are:

- Coopetition – while suppliers compete for customers (and customers compete with each other for the limited supply) they create a complex offer that makes a platform attractive for users on the demand side. Customers, in their turn, create a combined demand (an audience) that attracts potential suppliers;
- Network effects – the more there are sellers on a platform, the more attractive the platform is for customers and vice versa [33];

- Autonomy of participants: users interacting on a platform are not controlled by this platform or by any other centralized entity [33].

Platforms analyzed in the literature are set up and run by platform operators – specific organizations which invest into digital infrastructures and develop their institutional rules [13; 16; 25]. However, platforms can also emerge naturally without external support. This situation usually takes place when there is a potential platform side (in most cases – a crowd of potential customers) that gathers in a specific location (so the platform is not empty [38]) which is free to access. In this case participants from the other side are naturally attracted to this location by the presence of this crowd. Informal markets near to subway or real stations belong to this type of platform. Potential platform side is formed by passengers concentrated in these stations and the passengers' purchasing power attracts potential sellers. It means that arriving sellers transform passengers into demand side of the platform, while the location becomes a platform.

Another misconception about platforms is that users from both sides (or all sides – in case of multi-sided platforms) are willing to participate in platforms. While it is indeed true for organized platforms (run by platform operators), affiliation to natural platforms may not be comfortable for one of the sides. For example, passengers who commute via railway or subway stations transformed into informal marketplaces may be unhappy because of unwanted advertising, overcrowding etc. For these commuters their transformation into platform side may be undesirable (from their point of view sellers forcefully occupy the public transport infrastructure that was not intended to be used as a marketplace). Within the definition of platforms proposed by Hagiu and Wright [16] one can say that in case of natural platforms users' affiliation to an infrastructure (for example, affiliation to railway and subway stations) is transformed into affiliation to platform. It naturally solves the chicken-and-egg problem typical for platforms [11; 38] as one of the sides is already affiliated to the infrastructure that will be turned into platform by the occupying side. In simple words, the occupying side parasitize on passengers' affiliation to public transport infrastructure. The major inconvenience is that while users of organized platforms can simply leave them in case of dissatisfaction, users (or, maybe, prisoners) of natural platforms cannot leave without abandoning the infrastructures they use for other purposes (for example, for commuting). The occupying side also parasitize on the public infrastructure turned into a marketplace.

Obviously natural platforms are not always uncomfortable and many of them do create value for their users. However, one should take into account that people who are present on platforms may actually be unwilling to participate.

Finally, it is noteworthy that interacting users are not necessarily in direct contact with each other. Their interactions (exchanges, swaps, sales etc) can take place without personal contact. Historical examples of such contactless transactions include the famous silent trade (however, it was not based on platform model) [10; 28; 39]. Present contactless platforms are represented by public fridges for food sharing and public bookshelves for bookcrossing [3; 7; 29]. People who take free books from these shelves do not interact directly with persons who left these books, however, an exchange between them does take place.

Platforms can be digital and physical (city markets, shopping malls etc). The extant literature is mostly dedicated to digital marketplaces. However, only physical platforms will be analyzed in the present paper.

These concepts (potential absence of platform operators, possibility of natural emergence of a platform, unwillingness of one of the sides to participate in platforms, indirect or contactless transactions) are essential for understanding platforms that emerge in human-non-human interactions (HNNH platforms).

The paper is situated on the crossroads of economic anthropology and anthrozoology. It is conceptual and does not use empirical data. While there are some examples that support key ideas set out in the present essay, they cannot be considered as case studies.

### **Research results**

While there are many urban places where people interact with and encounter animals (circuses, traditional and petting zoos, animal markets [30], animal shelters [32; 35], cat cafés [42] etc), they cannot be viewed as HNNH platforms. They are either just centralized organizations that own animals (circuses, zoos etc); it means that they are not platforms at all as animals do not have any autonomy) or platforms for interaction between pet owners and buyers (pet markets), that is, platforms for transactions between people. This is why these places will not be analyzed in the present paper.

Most urban dwellers are familiar with the following situations:

1. There are places where animal supporters purposefully bring food for stray dogs, community cats [19] etc. Quite often the food is provided by many people who do not know each other, but are aware that animals come to this place (so the food brought to these places will be used as intended). These places are normally located near apartment block entrances, dumpsters etc. Interestingly enough, as now wild animals are often seen in cities they also benefit from food left in these locations (along with stray animals for whom this food was initially intended) [24; 27; 36]. For example, in

Vsevolozhsk, a small town near St. Petersburg (Russia), this food is taken not only by dogs and cats, but also by hedgehogs;

2. Animals (dogs, cats, birds) are gathering near open restaurants where they hope to find food. Birds take food from plates themselves when patrons have already left, while dogs and cats are usually approaching patrons asking them for food;
3. Animals are gathering on landfills and dumpsters where people throw out food and food waste.

As one can easily see, all these situations can be described as platforms as there are two independent collective sides (people and animals) which interact with each other. It means that platforms can emerge not only to facilitate transactions between people, but also for human-non-human interactions. However a further analysis is in order.

The situation 1 is a classical natural platform (as there is no central operator). Normally such platforms evolve as follows: a person leaves food for stray animals in a specific location. Animals attracted by this food start coming to this place. Other animal supporters among local dwellers who see that there is a place where animals are gathering start bringing food to this location. This way of development perfectly corresponds to the platform evolution model. These places have key features of platforms:

- Network effects: the more food is left there, the more this place is valuable for animals and the more animals come there the more this place is valuable for animal supporter who bring food;
- Coopetition: while animals compete for the limited supply of food, they create a collective demand.

These platforms are created by people on purpose, animals just react to the supply of food. Both sides are interested in this interaction as food givers want to provide support to stray animals and animals want to get food. Obviously these platforms can create negative externalities for local communities that may be unhappy with noise, dirt [5] etc. Moreover, local dwellers may be afraid of large groups of stray animals [36]. However, the key feature is that both food givers (people) and food takers (animals) are interested in this interaction.

The interaction between people and animals on these platforms can be direct and indirect. It means that animals can be present in these locations when people bring food (and in this case the interaction is direct), or animals can come when there are no people (indirect interaction).

The situation 2 is totally different. While it is also a natural platform, it emerges in a different way. Animals exploit infrastructure which is initially intended for

other purposes (open restaurants) and transform it into a platform (that is, unlike the situation 1, human-non-human interaction is initiated by animals; it means that animals can play an active role in emergence of HNH platforms). Platform interactions may be indirect (as the example of birds shows) and direct (with cats and dogs). Patrons are transformed into a platform side against their will (as they come to restaurant to spend time and to eat, not to be surrounded by animals looking and asking for food). It means that the platform side role is imposed on patrons and their participation in this platform is unvoluntary. Patrons' reactions to this forced platform transformation may be different (some people can enjoy giving extra food to cats and dogs and for them feeding animals is an additional entertainment) and include anger and discomfort. It leads to negative network effects, or, more precisely, while for animals network effects are positive, for patrons they are negative: more food makes these restaurants more attractive for animals, however, the more animals the fewer patrons. Obviously, like for the situation 1, cooperation is also present among animals.

The transformation of the restaurant into a platform also takes place against the will of its owner. It means that the platform transformation is forced not only for one of the platform sides, but also for the owner of the platform infrastructure (this is why forced platform transformation can be seen as a dark platform practice). In simple words, non-platform infrastructures that can potentially be used as marketplaces are often not protected against forced platform transformation. Owners of these infrastructures should not only develop strategies of platform transformation [14; 15], but also eliminate risks of forced platformization.

It also means that platform transformation of an infrastructure can be induced, that is, carried out by external actors, not by its owner.

Such forced platforms exist not only in human-non-human interactions. Open restaurants (especially fast-food restaurants) are surrounded not only by animals, but also by beggars asking for money. Their presence may be uncomfortable for customers.

This example demonstrate that natural platforms can emerge in two ways:

- When there is a centralized supply of a specific resource by a crowd of providers and potential users of this resource can access this supply. In this case users simply gather in the place where this resource is supplied. In case of human-only platforms this situation corresponds to informal marketplaces near metro stations described above. In case of HNH platforms the situation 2 follows this model;
- When additional providers can follow the first supplier who offered a product to potential users in a specific location. When customers react



to this offer (and create a demand) other suppliers discover the potential of this place and join it forming the supply side for this platform. It is important to highlight that the first provider is not the operator of the platform as other suppliers join it freely without his or her permission. Neither did this supplier intend to transform this location into a platform (in human only-platforms this supplier would even prefer to avoid this transformation in order not to create competition with his or her own offer). The supply side emerged naturally around this supplier. This model corresponds to the situation 1.

In both cases platforms emerge on the basis of potential demand sides. In the first model the demand side already exists thanks to a point of attraction. In the second model this demand side is created thanks to efforts of the first supplier.

The situation 3 is similar to the situation 2. The difference is that interactions between people and animals are mostly indirect. People throw out food into dumpsters and animals come later, when there are no local dwellers around. However, if dumpsters attract many animals they can gather in large groups and stay there even if there are people and in this case direct contacts between animals and people can take place [36]. It is noteworthy that these contacts are not food-related. Animals do not beg for food (as they can easily get it from dumpsters), it is simply not possible for a person to reach the dumpster without going by a group of dogs or cats. These groups of animals may be uncomfortable, scaring or even dangerous for local dwellers. Network effects are positive for both sites until these direct contacts are avoided. As soon as the contact becomes direct network effects become negative for people.

The situation 3 demonstrates that interactions on a platform are not necessarily resource-related. Sides may have to interact on a platform even if they do not exchange resources directly.

Just like in the situation 2, dumpsters are used as a source of food not only by animals, but also by people [6; 21; 31; 34]. The situation 2 and 3 demonstrate that people and animals are not always situated on the different sides of a platform, they may well belong to the same side.

Obviously the list of situations of platform interactions analyzed in the present research essay is not exhaustive. One can easily remember other situations (for example, people feeding swans, ducks and squirrels in city parks [37]; places for sky burials can be another example, probably a less nice one [17; 18; 26]). However, providing a full list of HNH platforms is beyond the scope of this paper.

## Conclusion

This research essay shows the following:

- Platform model is not human-specific. It is universal and can be used for interactions between people and animals. This result adds up to the emerging field of research in non-anthropocentric economic structures and organizations [1]. It is noteworthy, however, that all examples analyzed in this paper represent human-non-human interactions (that is, they include a human side). It is important to find out if there are any non-human platforms (platforms that do not have a human side);
- Despite the common belief, platform transformation may be involuntary (and value destroying) for one of the sides of the platform as well as for the owner of the infrastructure that is used as the marketplace (this phenomenon can be described as forced platform transformation or forced platformization). This research contribution is twofold. First, it extends the list of potential models of platform transformation and shows that it can be carried out by external actors against the will of the infrastructure owner. Infrastructure owners should not only develop strategies of platform transformation [14; 15] but also work out tools in order to protect their infrastructures against forced platformization. Second, this finding contributes to the analysis of dark platform practices which remain understudied in the literature [8; 20];
- Platforms can emerge naturally without efforts of an operator if there is a potential platform and an infrastructure that can be used as a marketplace. Platforms can be initiated by human actors as well as by non-human ones (which means that non-human animals are not just passive users of platforms initiated by people). People and animals can belong to the same side of a platform.

These results are important not only for human-non-human interactions, but for platform research in general as they enrich our understanding of the platform model and demonstrate that it can be used beyond the common assumptions.

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Поступила 05.10.2024

После рецензирования 20.11.2024

Принята 30.11.2024

Received 05.10.2024

Revised 20.11.2024

Accepted 30.11.2024